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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/176,580	10/21/98	SUNDARAM	R S01.12-0460

MM42/0210

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EXAMINER

VERBITSKY, G

ART UNIT

PAPER NUMBER

2859

DATE MAILED:

02/10/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademark

Office Action Summary

Application No.

09/176,580

Applicant(s)

Sundaram et al.

Examiner

Gail Verbitsky

Group Art Unit

2859

☐ Responsive to communication(s) filed on _____

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-20 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-20 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 2

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for domestic priority under 35 U.S.C. 119(e).

Specification

2. The disclosure is objected to because of the following informality: Applicant failed to fill out the blank space in page 15, line 20. Appropriate correction is required.

Claim Objections

3. Claims 5-6 are objected to because of the following informalities:
A) Claims 5-6: "transducers" in line 2 of claim 5 and claim 6 should be replaced with --transducer-- for proper antecedent basis. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 6-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as

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the invention. In this case, claim 8 contradicts to claims 2 and 6 because, according to claim 2, the thermal transducer is located along the air bearing surface 14 (Fig. 1), however, according to claim 8, in order for the thermal transducer to be in physical contact with the conductive pads (which, according to claim 6 are located on the top of the glider), the thermal transducer should be located on the top of the glider. Perhaps, applicant means different pads: the pads on the surface of the transducer in order to electrically connect the transducer to one end of the leads, and the pads on the other end of the leads in order to connect the leads to the peak circuitry. Is this a proper interpretation of the invention? Appropriate clarification is required in the claims.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Boutaghou et al. ('184) [hereinafter Boutaghou].

Boutaghou discloses in Figs. 1-4 a device comprising a slider body 12, transducers 18 located on an air bearing surface 14 (col. 6, lines 6-7), a control circuitry for moving a head and lifting it above a disc surface (col. 1, lines 27-30). The transducer 18 is coupled to a peak circuitry 25 detecting a voltage spike indicative of a "thermal asperity" on a disc through bond

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pads or terminals (conductive strips) on a surface of the slider body 12 (col. 3, lines 56-58) and being capable to detect PZT excitation or other signals (col. 3, lines 43-45), rails 26 where transducers 18 are deposited.

With respect to claim 16: the method step will be met during the normal manufacturing of the device stated above.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 2-11 and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boutaghou in view Kennedy et al. [hereinafter Kennedy].

Boutaghou discloses a device as stated above in paragraph 7.

Boutaghou does not disclose explicitly disclose a planar transducer, as stated in claim 2, conductive pads extending to the top of the glider, as stated in claim 6, pads in physical contact with the transducer, as stated in claim 8, and the limitations of claims 3-5 and 9-15.

Kennedy discloses in Figs. 1-2 a device comprising a flat (planar) transducer (col. 3, line 54) having electrical contacts (pads) on its free end (side) in order to be connected to electrical leads 17, 18 (conductive strips) (col. 11, lines 40-42) located on the top surface of the glider.

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Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify a device disclosed by Boutaghou such that to have a transducer of a planar shape with pads attached to it, in order to be able to electrically connect the transducer through the leads to the measuring circuitry, as already suggested by Kennedy and very well known in the art.

Official Notice is taken with respect to a particular location of the conductive pads: as stated in claim 6: the particular location of the conductive pads, i.e., on the top of the slider, absent any criticality, is only considered to be the "optimum" or "preferred" location that a person having ordinary skill in the art at the time the invention was made, would have found obvious to determine using routine experimentation based, among other things, on the location of the peak circuitry and the size of the device.

Official Notice is taken with respect to claims 9-10: since particular size and location of the transducer absent any criticality, is only considered to be obvious modification of the size of the transducer and its location on the slider disclosed by Boutaghou.

Official notice is taken with respect to claim 13: since positioning of the conductive strips on the plateau on the air bearing surface absent any criticality, is only considered to be "the optimum" or "preferred" location that a person having ordinary skill in the art would have found obvious to determine using routine experimentation based, among other things, on the size of the device, required accuracy and location of the peak circuitry.

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10. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Boutaghou and Kennedy as applied to claims 1-11 and 13-15 above, and further in view of Flechsig et al. [hereinafter Flechsig].

Boutaghou and Kennedy disclose a device as stated above in paragraph 9.

They do not explicitly disclose grounding of the thermal transducers.

Flechsig discloses in Fig. 9 a port 120 to which a sensor 91 is grounded to.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to electrically ground transducers disclosed by Boutaghou to a ground port in order to limit or stabilize the voltage to ground as very well known in the art.

With respect to a common electrical ground as stated in claim 12: since it is very well known in the art to electrically ground transducers in the same circuitry or device to the same (common) electrical ground conductor in order to minimize number of lines having "0" potential in the same circuitry and noise-to-signal ratio.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

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invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Allowable Subject Matter

12. Claims 17-20 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion


13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art cited in the PTO-892 and not mentioned above disclose related methods and devices.

14. Any inquiry concerning this communication should be directed to the examiner Verbitsky whose telephone number is (703) 306-5473.

Any inquiry related to the status of this application should be directed to the Group Receptionist whose telephone number is (703) 308-0956.

GKV

January 31, 2000


G. BRADLEY BENNETT
PRIMARY EXAMINER
AV 2859